Secretary - M.S. 1170
File in PR Docket 93-61

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OFFICE OF THE SECRETARY

The Honorable Marjorie Margolies-Mezvinsky
U.S. House of Representatives
1516 Longworth House Office Building
Washington, DC 20515-3813

EX PARTE OR LATE FILED

Dear Congresswoman Margolies-Mezvinsky:

Thank you for your letter regarding radio frequency devices that operate under Part 15 of the Commission's rules and our related proceeding dealing with automatic vehicle monitoring systems (PR Docket No. 93-61).

Part 15 of the Commission's rules provides for unlicensed operation of low power radio transmitters. Historically, the Commission has not allocated spectrum specifically for unlicensed Part 15 equipment. Instead, Part 15 equipment has been allowed to operate on a non-interference basis in spectrum that is shared with licensed radio services. For example, Part 15 devices must share the 902-928 MHz band, in which you have expressed interest, with a variety of different users: industrial, scientific, and medical equipment; federal government users; automatic vehicle monitoring (AVM) systems; and amateur radio operators. Section 15.5 of our rules indicates that Part 15 devices: 1) have no vested right to the continued use of any frequency; 2) must cease operation if they cause harmful interference to licensed services; and 3) must accept any interference that is received.

The Commission has the responsibility for ensuring that the use of the spectrum best serves the public interest which often requires striking a balance among competing uses of the spectrum. That process inevitably leads to the delineation of priorities. The Commission must evaluate not simply tangible results, but also the potential benefit a particular use presents. Determining the most beneficial use to the public requires the merging of technical, economic and legal disciplines and, as you note, this is as difficult as it is complex. The ongoing review of the 902-928 MHz band symbolizes the Commission's endeavor not simply to accept the status quo, but to determine the most optimal uses serving the public interest. The issues that have emerged, many of which are enumerated below, are not yet resolved.

Question 1. Has the Commission's long standing goal to encourage and facilitate the commercial development of advanced radio technology, and particularly, the development and manufacture of unlicensed Part 15 devices, been successful?

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List A B C D E

Answer: We believe the Commission's actions to encourage the development and manufacture of unlicensed Part 15 devices have been a success. A range of new radio products have become available to the public and businesses, reflecting economic development and the creation of new jobs. Part 15 products operate in numerous frequency bands throughout the radio spectrum and are used for a wide variety of consumer and business applications. In the 902-928 MHz band alone, we have authorized more than 20 different types of products for operation in this spectrum to more than 130 different manufacturers. We currently receive about 20 applications a month for approval of products in this spectrum, and continually see new kinds of products.

Question 2. Please identify the products that have been developed under the current Part 15 rules.

Answer: Part 15 devices include cordless telephones, wireless home security alarm systems, garage door opener systems, and radio control toys. Businesses use Part 15 products such as anti-pilferage systems, wireless radio local area networks, utility meter reading and load management systems, automatic door openers, and office PBX systems. Products that operate in the 902-928 MHz band include the following: home and business cordless telephones; residential and commercial security systems, including smoke detectors, fire alarms, and video surveillance systems; home arrest systems; tag identification systems for secure building access; wireless microphones; automatic vehicle identification systems; anti-shoplifting systems; computer local area networks; biomedical monitoring systems and medical data links; automatic utility meter reading systems; utility pipeline management systems; traffic light remote controls; bar-code scanners for inventory control; wireless check-out registers for retail establishments; and devices for wireless connection of electronic musical instruments.

Question 3. Please provide data on the amount of capital invested in the research, development and marketing of these products and the number of these products that have been purchased by consumers.

Answer: Manufacturers are not required to report information to the Commission on their capital investment or the number of products they have sold. In comments filed in our proceeding on automatic vehicle monitoring, PR Docket No. 93-61, a coalition of thirty manufacturers estimates that the overall investment in development of Part 15 devices for the 902-928 MHz band is approximately $2 billion. The comments filed in PR Docket No. 93-61 also indicate that there are at least 6 million Part 15 devices operating in the 902-928 MHz band.

Question 4. Is the Commission aware of load management and meter reading systems employing Part 15 unlicensed devices?

Answer: Yes, as noted above.

Question 5. Please describe the Commission's pending proposal to amend Part 90 of the Commission's Rule in order to adopt regulations for automatic vehicle monitoring (AVM) in PR Docket No. 93-61, RM-8013, and how it may affect the ability of Part 15 devices to continue to operate in the 902-928 MHz band.

Answer: In PR Docket No. 93-61, the Commission has proposed certain changes to rules pertaining to AVM systems operating in the 902-928 MHz frequency band. See Notice of Proposed Rule Making, PR Docket No. 93-61, 8 FCC Rcd 2502 (1993). The current interim rules governing operation of AVM systems in this band have been in place for about 20 years. AVM systems using this band are becoming the focus of increased investment opportunities. Some AVM systems will support the Intelligent Vehicle Highway System (IVHS). AVM systems can be used to track vehicles, collect tolls without requiring the vehicle to stop at a toll booth, alert drivers to traffic congestion, and display maps of routes around traffic tie-ups. Advocates assert substantial economic and safety benefits will accrue as these services reduce commuter travel time and highway congestion, and decrease energy consumption and pollution.

In our Notice, we proposed to adopt permanent rules that would expand the licensing of AVM systems from the 904-912 and 918-926 MHz sub-bands to the entire 902-928 MHz band. We also proposed to expand the eligible users and uses of AVM systems. Potential users would include individuals and the Federal Government, in addition to the existing business and local government users. We proposed that AVM systems be permitted to transmit information regarding the location of any object, animate or inanimate, and to rename the service to Location and Monitoring Service (LMS). Finally, we proposed to allow AVM services to be provided on a private carrier, for-profit basis instead of the current cost-sharing basis. We did not propose to change the Part 15 rules in any way.

Question 6. Pursuant to the current proposal in PR Docket No. 93-61 and Commission Rules governing priority users in a band, under what circumstances could unlicensed Part 15 devices be forced to cease operations, particularly in terms of interference?

Answer: As mentioned previously, the 902-928 MHz frequency band is shared by various user groups. In order to effectively manage the shared use of this spectrum, priorities for access to this band have been established among these groups. Users with lower priority generally must accept interference from and may not cause interference to users that have a higher priority. The 902-928 MHz band is primarily allocated for use by the Federal Government for Radiolocation, Fixed and Mobile services; these Federal Government users, must, however, accept interference from Industrial, Scientific and Medical (ISM) devices. Following both the Federal Government and ISM devices on the priority scale are AVM systems. Next are Amateur radio operators and finally, Part 15 users that are eligible to operate in this band. Because they have the lowest priority, Part 15 users are not permitted to cause interference to any of the other users in this band. Section

15.5 of our rules indicates that "The operator of a radio frequency device shall be required to cease operating the device upon notification by a Commission representative that the device is causing harmful interference. Operation shall not resume until the condition causing the harmful interference has been corrected." The priorities for use of the 902-928 MHz band constitute no change from existing rules.

Question 7. Please provide data on the character and probability of interference by Part 15 devices to the proposed AVM system and vice versa.

Answer: Commenters argue that some of the planned AVM systems, primarily those that would be used to track vehicles with wide-band, pulse-ranging ("multilateration") technology, rely on weak signals that are rather easily interfered with. Many of the commenters in PR Docket No. 93-61 indicate that interference to multilateration AVM systems from Part 15 devices, as well as from other AVM systems, is likely. The commenters also indicate that interference from multilateration AVM systems to Part 15 devices, and interference between non-multilateration AVM systems and Part 15 devices, is substantially less likely.

MobileVision, a proponent of multilateration AVM systems, filed an analysis of potential interference between Part 15 devices and multilateration AVM systems. That study indicates that outdoor Part 15 devices located within 3.6 miles of a multilateration AVM receive site are likely to cause "very significant interference".

In the record, Part 15 manufacturers express concern that, because of the Part 15 non-interference requirements, their products will be unable to continue to operate in the 902-928 MHz band.

Question 8. Please characterize the number and types of proponents and opponents to the proposal in PR Docket No. 93-61. Do a majority of manufacturers of products using this area of the spectrum oppose this proposal? Is there agreement amongst the AVM systems themselves in support of this proposal?

Answer: We received 84 initial comments and reply comments, followed by additional further comments and reply comments, as well as numerous ex parte filings. Commenters included AVM service providers, AVM licensees that use AVM systems to meet their own internal needs, AVM users, manufacturers and users of Part 15 equipment, and amateur operators.

AVM commenters generally favor our proposals and argue that it is critical that the Commission adopt permanent rules and end the regulatory uncertainty regarding this band. They suggest that the lack of permanent rules is keeping AVM service providers and manufacturers from committing greater capital or from obtaining the financing that is needed for full development and implementation of AVM systems. There is some disagreement among AVM commenters regarding compatibility and

interference potential between multilateration AVM systems, non-multilateration AVM systems, and Part 15 devices. These differing positions involve issues such as whether multilateration AVM systems should be kept apart from non-multilateration AVM systems, whether multiple multilateration systems can coexist in the same sub-band, and, if so, whether the number of multilateration AVM systems in one sub-band should be limited.

Manufacturers and users of Part 15 equipment and Amateur operators uniformly oppose the proposal to expand use of AVM systems in the 902-928 MHz band. These commenters contend that the proposed expansion of AVM systems in this band will lead to severe spectrum congestion that will force operators of Part 15 equipment and Amateur operators to discontinue use of the band because of interference both to and from AVM operations. They generally recommended either discontinuing AVM use in the band completely or providing additional protection for their operations.

We are now in the process of deciding what our next steps should be in this proceeding. Commission staff is looking carefully at all of the issues raised in this proceeding and is reviewing a number of options. The Commission will endeavor to make a decision in this proceeding that brings the greatest benefit to the American public. Please let me know if you would like additional information on this matter.

Sincerely,

Reed E. Hundt
Chairman